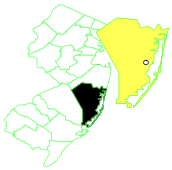
CIBA-GEIGY CORP.

NEW JERSEY

EPA ID# NJD001502517



EPA REGION 2

CONGRESSIONAL DIST. 03

Ocean County

Route 37 in Dover Township

Other Names:
Toms River Chemical

Site Description

The Ciba-Geigy Chemical Corporation site in Toms River, Dover Township, New Jersey, is presently owned and operated by the Ciba Specialty Chemicals Corporation (Ciba) which was formerly Ciba-Geigy Corporation (Ciba-Geigy). The site encompasses approximately 1,400 acres, 320 of which are developed, with the remainder consisting of cleared areas, pine barrens and wetlands. From 1952 to 1990, Ciba-Geigy manufactured dyes, pigments, resins and epoxy additives. In 1988, pigments and dyestuffs manufacturing operations ceased and in December 1990, resins and epoxy manufacturing ceased. The manufacturing buildings were subsequently demolished. The company disposed of sludge and chemical process wastes on-site in the following locations: a buried drum disposal area believed to contain 30,000 - 35,000 drums; a lime sludge disposal area containing inorganic wastes; a 12-acre filtercake disposal area containing wastewater treatment plant sludge; five backfilled lagoons that total 8 ½ acres; two additional 5-acre equalization basins, which contain sludge from a former wastewater treatment plant; a 25-acre borrow/compactor area, which contains construction and demolition debris, scattered chemical wastes, drums and sludge. The drum disposal area and the lime sludge disposal area were closed under permits issued by the State of New Jersey in 1978. Ciba also maintains an on-site State of New Jersey permitted solid waste landfill.

Contamination from the disposal areas listed above, except the solid waste landfill, is leaching into groundwater. Site groundwater flows east towards the Toms River and adjacent wetlands. Groundwater in the local area is tapped by municipal, industrial, and private wells. To the north, south and west, the site is bordered by light industrial, commercial, residential, and recreational areas. The Township of Dover has an estimated population of 64,455 persons. There are 180 residential units less than ½ mile to the north of the site and more than 250 residential units less than ½ mile from the site's southern boundary. An elementary school is adjacent to the site along the southwestern fence line.

The New Jersey Department of Environmental Protection (NJDEP) issued an Administrative Order in 1980 that required Ciba-Geigy to remove 15,000 drums from the on-site solid waste landfill and to initiate groundwater monitoring at the site. As an interim measure, the NJDEP granted Ciba-Geigy a permit in December 1991 that allowed the company to pump contaminated groundwater, treat it, and discharge it on site to the ground surface. Before December 1991, treated groundwater was mixed with treated process and sanitary waste flows and discharged to the Atlantic Ocean via a ten mile pipeline, however, a state law required the closure of this pipeline. Process and sanitary flows were later directed to the Ocean County Utilities Authority (OCUA) plant in Berkeley Township. All commercial operations at the site ceased in December 1996 and the discharge to OCUA has stopped.

Site Responsibility: This site is being addressed through a combination of Federal, State and potentially responsible parties' actions.

NPL LISTING HISTORY
Proposed Date: 12/01/82
Final Date: 09/01/83

Threats and Contaminants

Groundwater and soils are contaminated with volatile organic compounds (VOCs) including benzene, trichloroethylene (TCE), chlorobenzene, 1,2-dichloroethane and toluene, and heavy metals, including arsenic. The groundwater plume is migrating to the Toms River and wetlands along the eastern boundary of the site. EPA determined that the most immediate threat to human health and the environment was through ingestion of contaminated groundwater and required the closure of all affected residential irrigation wells.

Cleanup Approach

EPA determined that the most immediate threat to human health and the environment was through contaminated groundwater. Based on the above, EPA is addressing cleanup of the site in two phases or operable units (OUs). OU 1 focuses on cleanup of the contaminated groundwater and OU 2 addresses the source areas. A Record of Decision (ROD) for OU 1 was signed on April 24, 1989. The ROD specified the following: contaminated groundwater would be pumped, treated on site, and discharged to the Toms River; the uncontaminated lower aquifer would be evaluated; the Toms River would be monitored; contaminated residential wells would be closed; an investigation would be conducted to acquire enough data to characterize source areas and determine appropriate cleanup actions. In late 1991, representatives of citizens and environmental groups and Ciba-Geigy requested that EPA reconsider on-site recharge of treated groundwater instead of river discharge. EPA reevaluated on-site recharge and determined that it was technically feasible, could be implemented in the same time frame as the original ROD remedy, and was protective of human health and the environment. The public showed overwhelming support and EPA issued an Explanation of Significant Differences (ESD) in September 1993 that changed the discharge point for treated groundwater from the Toms River to recharge on site.

Response Action Status

Groundwater: All contaminated residential irrigation wells were sealed by mid-1991. Full-scale operation of the on-site groundwater treatment plant began in March 1996. The plant currently treats approximately 2.5 million gallons per day of contaminated groundwater. All sample results for the treated groundwater have been below the criteria established in the ROD and ESD.

Source Areas: The second phase of the investigation at the site, which began in September 1989 and was completed in 1994, was undertaken to evaluate the extent and nature of contamination in the source areas. This investigation identified 21 potential source areas including the drum disposal area, which is estimated to contain 30,000 - 35,000 drums, and off-site wetland areas. The draft feasibility study of alternatives for addressing contamination in the source areas was prepared by Ciba and released on August 31, 1999.

Site Facts: In 1984, EPA informed the parties potentially responsible for the site contamination of their responsibility for cleaning up the site. Ciba-Geigy agreed to cooperate in the varied investigations to determine the nature and the extent of the contamination. In September 1993, Ciba-Geigy entered into a Consent Decree with EPA covering implementation of the revised groundwater cleanup remedy and reimbursement of past costs, together estimated to cost $54 million. In October 1995, EPA and Ciba-Geigy entered into an Administrative Order on Consent (AOC) which allowed Ciba to perform the feasibility study to evaluate cleanup alternatives for the source areas.

Cleanup Progress

Groundwater *(Construction Complete)*

The groundwater extraction, treatment and recharge systems are operational. Contaminated irrigation wells have been sealed. The local community is not affected by the contaminant plume, and the site does not pose an immediate threat to the surrounding community. Approximately 5.6 billion gallons of contaminated groundwater have been treated to meet EPA criteria, to date.

Source Areas

The remedial investigation of the source areas has been completed. The feasibility study of alternatives for addressing contamination in the source areas was prepared by Ciba and released for review on August 31, 1999. In September 2000, EPA issued a Record of Decision for the site which called for the bioremediation of approximately 145,000 cubic yards of contaminated soils and the excavation and off-site disposal of about 32,000 drums. Bioremediation of some groundwater and containment of some source areas were also part of the selected remedy. A Consent Decree was signed by Ciba Speciality Chemicals which covers the performance of the design and remediation of the Source Areas. The Consent Decree was lodged with the Court in September 2001. Currently, Ciba is designing the OU 2 remedy. Completion of the design is expected in 2003.

Site Repository

Ocean County Public Library, 101 Washington Street, Tom River, NJ 08753.